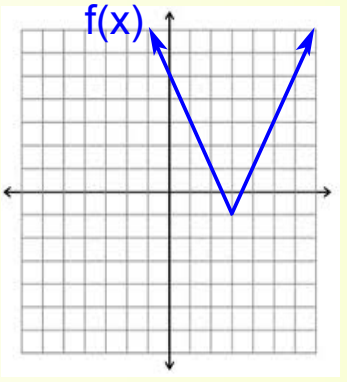
Alg. 2 Warm Up #1-3

Warm Up sheets by the door.

1. Solve:

$x^2 + 5x - 14 > 0$

2. Find an equation for f(x)

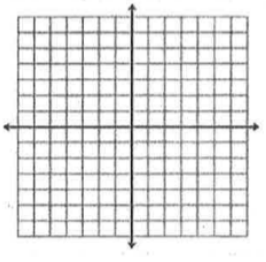


3. Graph: $y \leq f(x)$

Alg. 2B Ch 4 homework #1 Name_____ Team_____ Per_____

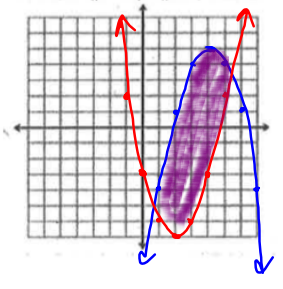
1. Graph the inequality or system of inequalities. Shade the solution region.

a. $y > -\frac{1}{2}x + 3$



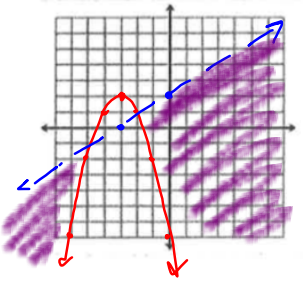
b. $y \leq -(x-4)^2 + 5$

$y \geq (x-2)^2 - 7$

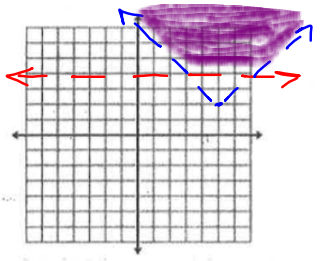


c. $y \geq -(x+3)^2 + 2$

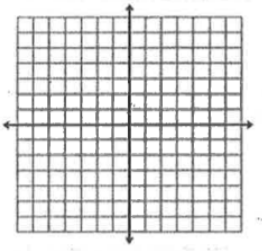
$2x - 3y > -6$



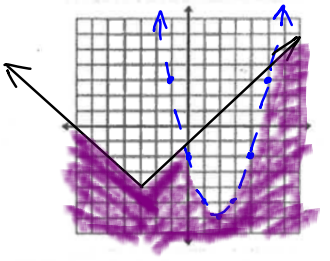
d. $y > |x-5|+2$
$y > 4$



e. $y > -|x+1|+4$
$y \geq \frac{1}{2}x - 2$



e. $y \leq |x+3|-4$
$y < (x-2)^2 - 6$



2. Simplify each expression.

a. $\frac{(x^3y)^{-2}}{8x^0y^{-6}}$

b. $\frac{7x^{-4}y^5}{xy^4} * \frac{(y^{-2})^{-3}}{(7x)^2}$

2. Simplify each expression.

a. $\frac{(x^3y)^{-2}}{8x^0y^{-6}}$

$\frac{y^6}{8(x^3y)^2}$

$\frac{y^6}{8x^6y^2}$

$\boxed{\frac{y^4}{8x^6}}$

b. $\frac{7x^{-4}y^5}{xy^4} * \frac{(y^{-2})^{-3}}{(7x)^2}$

$\frac{7y}{x^5} \cdot \frac{y^6}{7 \cdot 49 x^2}$

$\boxed{\frac{y^7}{7x^7}}$

c. $\frac{36a^{-2}b^3}{a^5b^{-2}} \div \frac{4a^7}{a^{-4}b^7}$

c. $\dfrac{36a^{-2}b^3}{a^5b^{-2}} \div \dfrac{4a^7}{a^{-4}b^7}$

$9\ \dfrac{36b^3 \cdot b^2}{a^5 \cdot a^2} \cdot \dfrac{a^{-4}b^7}{4a^7}$

$\dfrac{9b^5}{a^7} \cdot \dfrac{b^7}{a^4 \cdot a^7}$

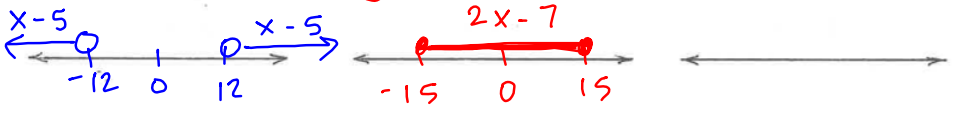
$\dfrac{9b^{12}}{a^{18}}$

4. Use the meaning of absolute value to set up each problem on a number line, then write the compound inequality and solve.

a. $|x-5| > 12$

b. $|2x-7| \le 15$

c. $|3x+2| > 10$



$x-5 < -12$ or $x-5 > 12$

$x < -7$ or $x > 17$

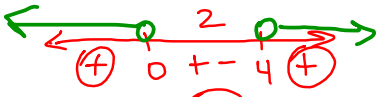
$-15 \le 2x-7 \le 15$

$-4 \le x \le 11$

3. Find the critical numbers (boundary points) using the zero product property, then use a number line test to solve the inequality.

a. $2x^2 - x - 10 \leq 0$ b. $12x^2 - 48x > 0$ c. $4x^2 - 81 \geq 0$

$12x(x-4) > 0$ $(2x+9)(2x-9) \geq 0$



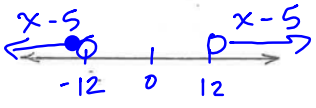
$x < 0$ or $x > 4$

$a^2 - b^2$

$(a+b)(a-b)$

4. Use the meaning of absolute value to set up each problem on a number line, then write the compound inequality and solve.

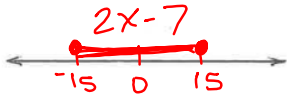
a. $|x-5| > 12$ b. $|2x-7| \leq 15$ c. $|3x+2| > 10$



$x-5 < -12$ or $x-5 > 12$

$+5 \quad +5 \qquad +5 \quad +5$

$x < -7$ or $x > 17$



$-15 \leq 2x - 7 \leq 15$

$+7 \qquad +7 \quad +7$

$-8 \leq 2x \leq 22$

$-4 \leq x \leq 11$

5. At a college bookstore, Carla purchased a math textbook and a novel that cost a total of \$54. If the price of the math textbook is \$8 more than 3 times the price of the novel, what is the price of each book? Specifically identify the variables, write a system of equations then solve.

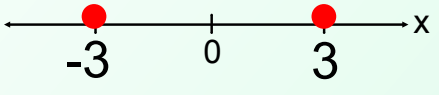
Let m = price in \$ of a math text.

Let n =

Review Absolute Value:

Using the definition of absolute value as the distance from zero on the real number line:

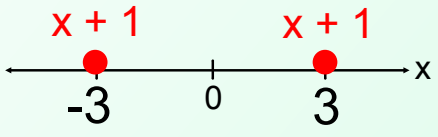
$|x| = 3$ means that the value of x is 3 units from zero on the number line



$x = -3$ or $x = 3$

** Never +, -, x, or ÷, into or out of an absolute value symbol!!

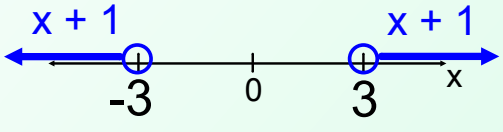
$|x + 1| = 3$ means that the value of $x + 1$ is 3 units from zero on the number line



$x + 1 = -3$ or $x + 1 = 3$

** Never +, -, x, or ÷, into or out of an absolute value symbol!!

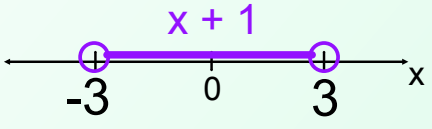
$|x + 1| > 3$ means that the value of $x + 1$ is more than 3 units from zero on the number line



$x + 1 < -3$ or $x + 1 > 3$

** Never +, -, x, or ÷, into or out of an absolute value symbol!!

$|x + 1| < 3$ means that the value of $x + 1$ is less than 3 units from zero on the number line



$-3 < x + 1 < 3$

HW: Ch 4

Homework WS #2

Alg 2 CPM Vol. I